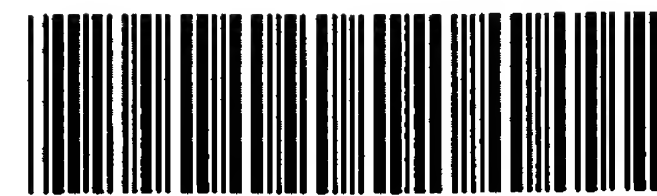


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IFWO

RAW SEQUENCE LISTING

DATE: 01/12/2004

PATENT APPLICATION: US/10/650,369A

TIME: 10:36:11

Input Set : N:\Crif3\RULE60\10650369A.RAW.txt

Output Set: N:\CRF4\01092004\J650369A.raw

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1 <110> APPLICANT: Potter, Andrew A.
2      Perez-Casal, Jose
3      Fontaine, Michael
4 <120> TITLE OF INVENTION: IMMUNIZATION OF DAIRY CATTLE WITH CHIMERIC GAPC PROTEIN
5      AGAINST STREPTOCOCCUS INFECTION
6 <130> FILE REFERENCE: 9000-0057
7 <140> CURRENT APPLICATION NUMBER: 10/650,369A
8 <141> CURRENT FILING DATE: 2003-08-27
9 <150> PRIOR APPLICATION NUMBER: US/09/878,766A
10 <151> PRIOR FILING DATE: 2001-09-10
11 <160> NUMBER OF SEQ ID NOS: 22
12 <170> SOFTWARE: PatentIn Ver. 2.0
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16 <212> TYPE: DNA
17 <213> ORGANISM: Artificial Sequence
18 <220> FEATURE:
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RAW SEQUENCE LISTING

DATE: 01/12/2004

PATENT APPLICATION: US/10/650,369A

TIME: 10:36:11

Input Set : N:\Cr3\RULE60\10650369A.RAW.txt

Output Set: N:\CRF4\01092004\J650369A.raw

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61 <212> TYPE: DNA
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90 <220> FEATURE:
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RAW SEQUENCE LISTING

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PATENT APPLICATION: US/10/650,369A

TIME: 10:36:11

Input Set : N:\CrF3\RULE60\10650369A.RAW.txt

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113      Met Val Val Lys Val Gly Ile Asn Gly Phe Gly Arg Ile Gly Arg Leu
114      1          5          10          15
115      gca ttc cgt cgt att caa aat gtt gaa ggt gtt gaa gta act cgt atc      96
116      Ala Phe Arg Arg Ile Gln Asn Val Glu Gly Val Glu Val Thr Arg Ile
117      20          25          30
118      aac gac ctt aca gat cca aac atg ctt gca cac ttg ttg aaa tac gat      144
119      Asn Asp Leu Thr Asp Pro Asn Met Leu Ala His Leu Leu Lys Tyr Asp
120      35          40          45
121      aca act caa gga cgt ttt gac gga act gtt gaa gtt aaa gaa ggt gga      192
122      Thr Thr Gln Gly Arg Phe Asp Gly Thr Val Glu Val Lys Glu Gly Gly
123      50          55          60
124      ttt gaa gta aac gga aac ttc atc aaa gtt tct gct gaa cgt gat cca      240
125      Phe Glu Val Asn Gly Asn Phe Ile Lys Val Ser Ala Glu Arg Asp Pro
126      65          70          75          80
127      gaa aac atc gac tgg gca act gac ggt gtt gaa atc gtt ctg gaa gca      288
128      Glu Asn Ile Asp Trp Ala Thr Asp Gly Val Glu Ile Val Leu Glu Ala
129      85          90          95
130      act ggt ttc ttt gct aaa aaa gaa gct gct gaa aaa cac tta cat gct      336
131      Thr Gly Phe Phe Ala Lys Lys Glu Ala Ala Glu Lys His Leu His Ala
132      100          105          110
133      aac ggt gct aaa aaa gtt gtt atc aca gct cct ggt gga aac gac gtt      384
134      Asn Gly Ala Lys Lys Val Val Ile Thr Ala Pro Gly Gly Asn Asp Val
135      115          120          125
136      aaa aca gtt gtt ttc aac act aac cac gac att ctt gac ggt act gaa      432
137      Lys Thr Val Val Phe Asn Thr Asn His Asp Ile Leu Asp Gly Thr Glu
138      130          135          140
139      aca gtt atc tca ggt gct tca tgt act aca aac tgt tta gct cct atg      480
140      Thr Val Ile Ser Gly Ala Ser Cys Thr Thr Asn Cys Leu Ala Pro Met
141      145          150          155          160
142      gct aaa gct ctt cac gat gca ttt ggt atc caa aaa ggt ctt atg act      528
143      Ala Lys Ala Leu His Asp Ala Phe Gly Ile Gln Lys Gly Leu Met Thr
144      165          170          175
145      aca atc cac gct tat act ggt gac caa atg atc ctt gac gga cca cac      576
146      Thr Ile His Ala Tyr Thr Gly Asp Gln Met Ile Leu Asp Gly Pro His
147      180          185          190
148      cgt ggt ggt gac ctt cgt cgt gct cgt gct ggt gct gca aac att gtt      624
149      Arg Gly Gly Asp Leu Arg Arg Ala Arg Ala Gly Ala Ala Asn Ile Val
150      195          200          205
151      cct aac tca act ggt gct gct aaa gct atc ggt ctt gtt atc cca gaa      672
152      Pro Asn Ser Thr Gly Ala Ala Lys Ala Ile Gly Leu Val Ile Pro Glu

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TIME: 10:36:11

Input Set : N:\CrF3\RULE60\10650369A.RAW.txt

Output Set: N:\CRF4\01092004\J650369A.raw

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154      ttg aat ggt aaa ctt gat ggt gct gca caa cgt gtt cct gtt cca act 720
155      Leu Asn Gly Lys Leu Asp Gly Ala Ala Gln Arg Val Pro Val Pro Thr
156      225          230          235          240
157      gga tca gta act gag ttg gtt gta act ctt gat aaa aac gtt tct gtt 768
158      Gly Ser Val Thr Glu Leu Val Val Thr Leu Asp Lys Asn Val Ser Val
159          245          250          255
160      gac gaa atc aac gct gct atg aaa gct gct tca aac gac agt ttc ggt 816
161      Asp Glu Ile Asn Ala Ala Met Lys Ala Ala Ser Asn Asp Ser Phe Gly
162          260          265          270
163      tac act gaa gat cca att gtt tct tca gat atc gta ggc gtg tca tac 864
164      Tyr Thr Glu Asp Pro Ile Val Ser Ser Asp Ile Val Gly Val Ser Tyr
165          275          280          285
166      ggt tca ttg ttt gac gca act caa act aaa gtt atg gaa gtt gac gga 912
167      Gly Ser Leu Phe Asp Ala Thr Gln Thr Lys Val Met Glu Val Asp Gly
168          290          295          300
169      tca caa ttg gtt aaa gtt gta tca tgg tat gac aat gaa atg tct tac 960
170      Ser Gln Leu Val Lys Val Val Ser Trp Tyr Asp Asn Glu Met Ser Tyr
171      305          310          315          320
172      act gct caa ctt gtt cgt aca ctt gag tac ttt gca aaa atc gct aaa 1008
173      Thr Ala Gln Leu Val Arg Thr Leu Glu Tyr Phe Ala Lys Ile Ala Lys
174          325          330          335
175      taa 1011
177 <210> SEQ ID NO: 12
178 <211> LENGTH: 336
179 <212> TYPE: PRT
180 <213> ORGANISM: Streptococcus dysgalactiae
181 <400> SEQUENCE: 12
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184      Ala Phe Arg Arg Ile Gln Asn Val Glu Gly Val Glu Val Thr Arg Ile
185          20          25          30
186      Asn Asp Leu Thr Asp Pro Asn Met Leu Ala His Leu Leu Lys Tyr Asp
187          35          40          45
188      Thr Thr Gln Gly Arg Phe Asp Gly Thr Val Glu Val Lys Glu Gly Gly
189          50          55          60
190      Phe Glu Val Asn Gly Asn Phe Ile Lys Val Ser Ala Glu Arg Asp Pro
191          65          70          75          80
192      Glu Asn Ile Asp Trp Ala Thr Asp Gly Val Glu Ile Val Leu Glu Ala
193          85          90          95
194      Thr Gly Phe Phe Ala Lys Lys Glu Ala Ala Glu Lys His Leu His Ala
195          100          105          110
196      Asn Gly Ala Lys Lys Val Val Ile Thr Ala Pro Gly Gly Asn Asp Val
197          115          120          125
198      Lys Thr Val Val Phe Asn Thr Asn His Asp Ile Leu Asp Gly Thr Glu
199          130          135          140
200      Thr Val Ile Ser Gly Ala Ser Cys Thr Thr Asn Cys Leu Ala Pro Met
201          145          150          155          160
202      Ala Lys Ala Leu His Asp Ala Phe Gly Ile Gln Lys Gly Leu Met Thr

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RAW SEQUENCE LISTING

DATE: 01/12/2004

PATENT APPLICATION: US/10/650,369A

TIME: 10:36:11

Input Set : N:\Crf3\RULE60\10650369A.RAW.txt

Output Set: N:\CRF4\01092004\J650369A.raw

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205				180					185					190			
206	Arg	Gly	Gly	Asp	Leu	Arg	Arg	Ala	Arg	Ala	Gly	Ala	Ala	Asn	Ile	Val	
207			195					200					205				
208	Pro	Asn	Ser	Thr	Gly	Ala	Ala	Lys	Ala	Ile	Gly	Leu	Val	Ile	Pro	Glu	
209		210					215					220					
210	Leu	Asn	Gly	Lys	Leu	Asp	Gly	Ala	Ala	Gln	Arg	Val	Pro	Val	Pro	Thr	
211	225					230					235					240	
212	Gly	Ser	Val	Thr	Glu	Leu	Val	Val	Thr	Leu	Asp	Lys	Asn	Val	Ser	Val	
213				245					250						255		
214	Asp	Glu	Ile	Asn	Ala	Ala	Met	Lys	Ala	Ala	Ser	Asn	Asp	Ser	Phe	Gly	
215			260						265				270				
216	Tyr	Thr	Glu	Asp	Pro	Ile	Val	Ser	Ser	Asp	Ile	Val	Gly	Val	Ser	Tyr	
217		275						280					285				
218	Gly	Ser	Leu	Phe	Asp	Ala	Thr	Gln	Thr	Lys	Val	Met	Glu	Val	Asp	Gly	
219		290					295				300						
220	Ser	Gln	Leu	Val	Lys	Val	Val	Ser	Trp	Tyr	Asp	Asn	Glu	Met	Ser	Tyr	
221	305					310					315					320	
222	Thr	Ala	Gln	Leu	Val	Arg	Thr	Leu	Glu	Tyr	Phe	Ala	Lys	Ile	Ala	Lys	
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225	<210> SEQ ID NO: 13																
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234	Met	Val	Val	Lys	Val	Gly	Ile	Asn	Gly	Phe	Gly	Arg	Ile	Gly	Arg	Leu	
235	1				5					10					15		
236	gca	ttc	cgt	cgc	atc	caa	aac	gta	gaa	ggt	gtt	gaa	gtt	act	cgt	atc	96
237	Ala	Phe	Arg	Arg	Ile	Gln	Asn	Val	Glu	Gly	Val	Glu	Val	Thr	Arg	Ile	
238				20					25					30			
239	aac	gac	ctt	aca	gat	cca	aac	atg	ctt	gca	cac	ttg	ttg	aaa	tat	gac	144
240	Asn	Asp	Leu	Thr	Asp	Pro	Asn	Met	Leu	Ala	His	Leu	Leu	Lys	Tyr	Asp	
241			35				40					45					
242	aca	act	caa	ggt	cgt	ttc	gac	ggt	act	gtt	gaa	gtt	aaa	gaa	ggt	gga	192
243	Thr	Thr	Gln	Gly	Arg	Phe	Asp	Gly	Thr	Val	Glu	Val	Lys	Glu	Gly	Gly	
244		50					55				60						
245	ttc	gaa	gtt	aac	ggt	caa	ttt	gtt	aaa	gtt	tct	gct	gaa	cgc	gaa	cca	240
246	Phe	Glu	Val	Asn	Gly	Gln	Phe	Val	Lys	Val	Ser	Ala	Glu	Arg	Glu	Pro	
247	65					70				75					80		
248	gca	aac	att	gac	tgg	gct	act	gat	ggc	gta	gaa	atc	gtt	ctt	gaa	gca	288
249	Ala	Asn	Ile	Asp	Trp	Ala	Thr	Asp	Gly	Val	Glu	Ile	Val	Leu	Glu	Ala	
250				85					90					95			
251	act	ggt	ttc	ttt	gca	tca	aaa	gaa	aaa	gct	gga	caa	cac	atc	cat	gaa	336
252	Thr	Gly	Phe	Phe	Ala	Ser	Lys	Glu	Lys	Ala	Gly	Gln	His	Ile	His	Glu	

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/650,369A

DATE: 01/12/2004
TIME: 10:36:12

Input Set : N:\Crf3\RULE60\10650369A.RAW.txt
Output Set: N:\CRF4\01092004\J650369A.raw

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 4

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/650,369A

DATE: 01/12/2004

TIME: 10:36:12

Input Set : N:\Crf3\RULE60\10650369A.RAW.txt

Output Set: N:\CRF4\01092004\J650369A.raw

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L:718 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:21